

Evaluating the Relationship between Motivation, Self- Efficacy, and Competence in a Pediatric Residency Mastery Simulation Course

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July phenomenon: fact or fiction

This annual changeover affects more than 100 000 housestaff in the US and 32 000 in Europe.

"Mortality increases and efficiency decreases in hospitals because of year-end changeovers", Young et al (2011)



Simulation Course

Targeted Needs Assessment

- Survey of current interns
- Focus group
- Intradisciplinary working group

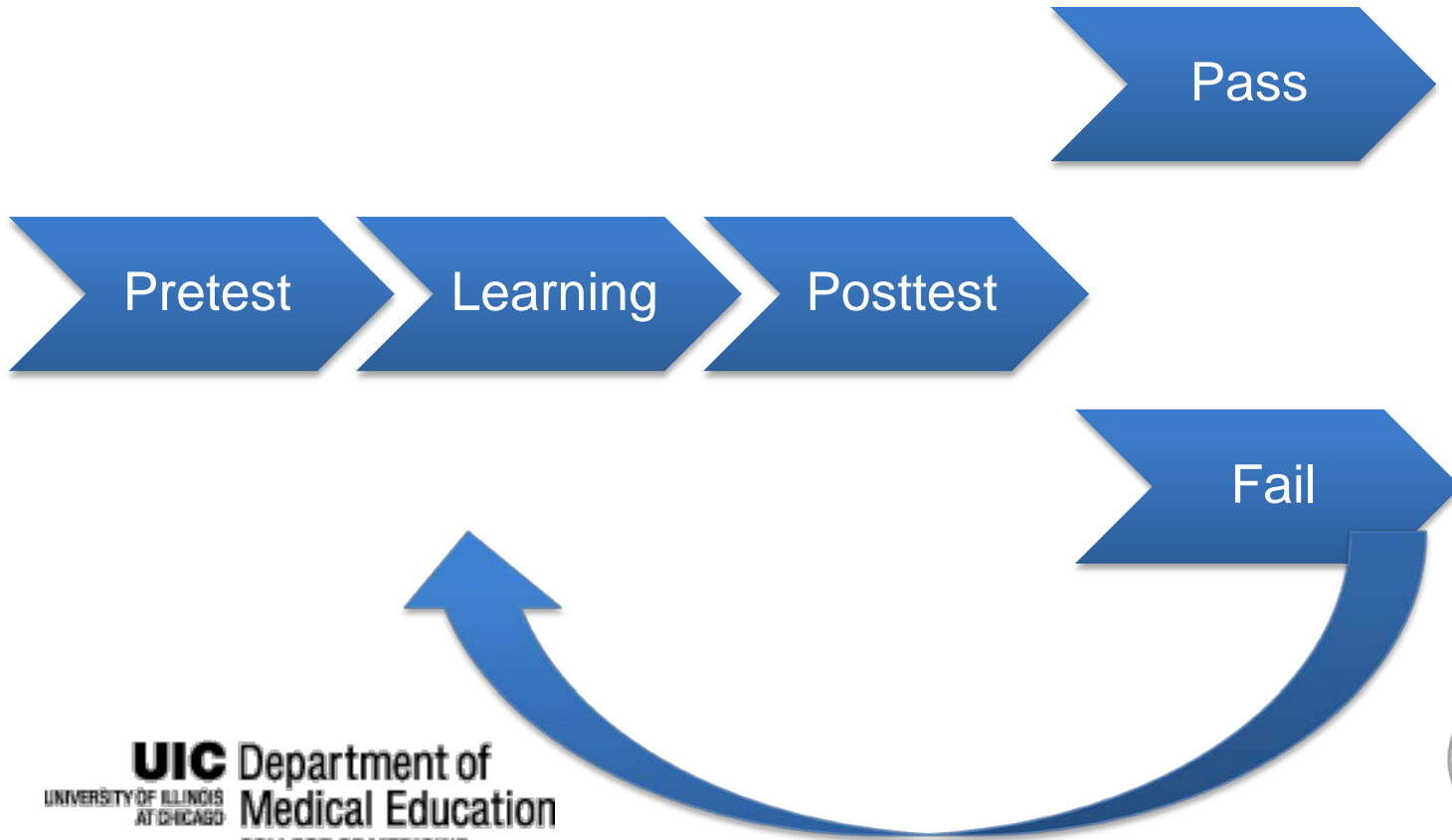
Educational Strategies

- Simulation
- Workshop
- Mastery Learning Method

Simulation Course

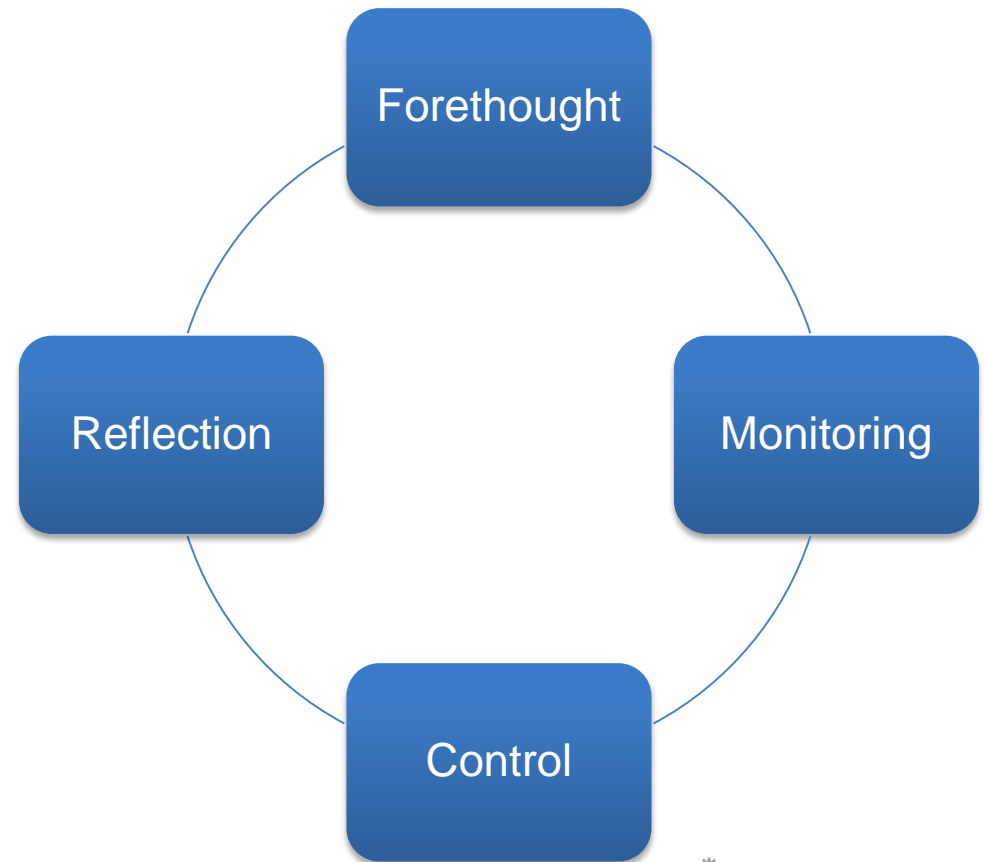
- 2 day course
- 5 stations:
 - lumbar puncture
 - urinary catheterization
 - cardio-pulmonary resuscitation
 - management of dehydration
 - case presentation

Mastery Model

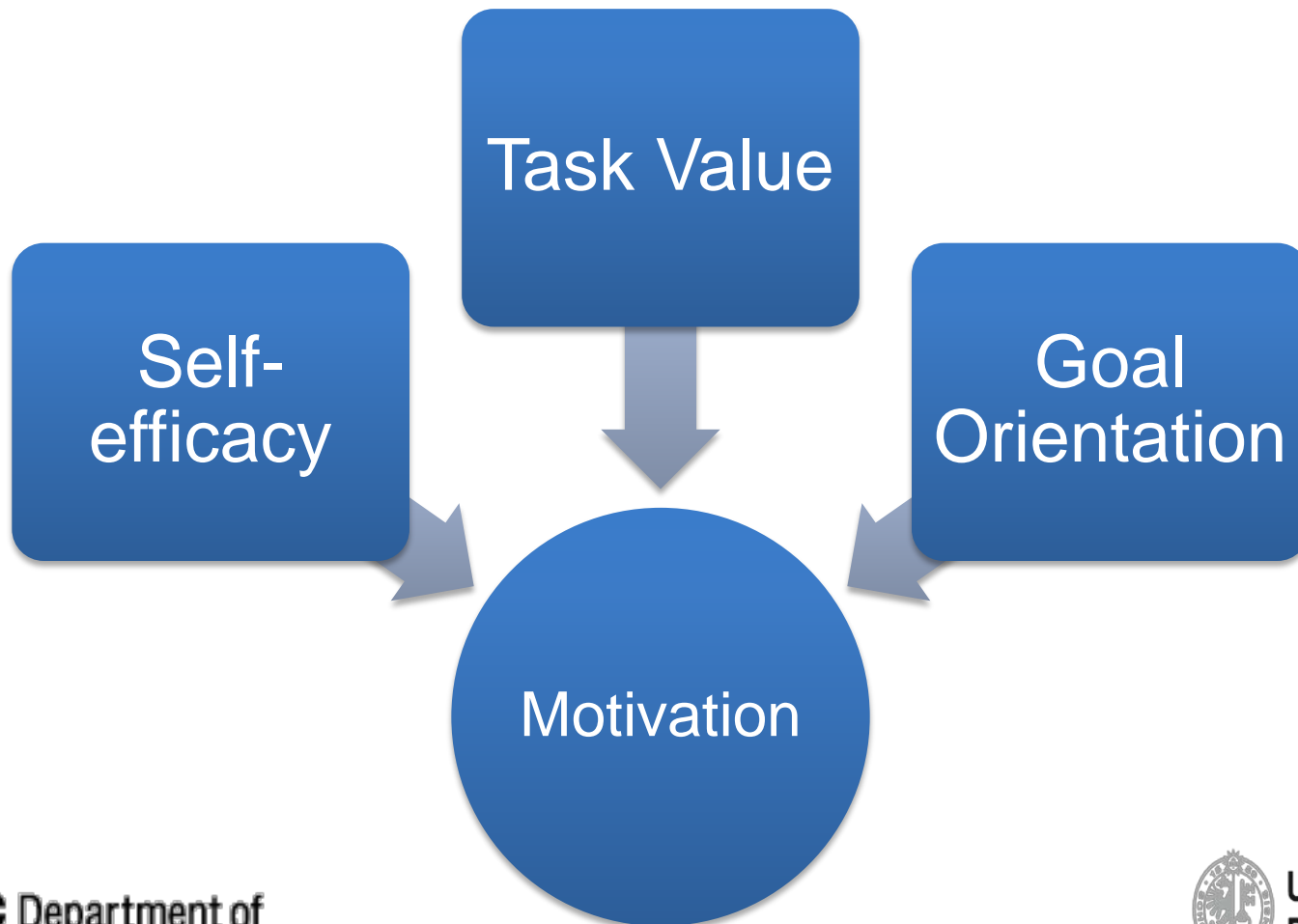


Self-Regulated Learning Theory

- *Self regulated learning is a construct that describes the way individuals regulate their own cognitive processing in an educational environment (Zeidner et al., 2000).*



Motivation



Research Questions

- *Does the inter-relationship of motivation, self-efficacy, competence, and mastery learning moderated performance in a Mastery Learning simulation course?*
- *Is a Mastery Learning simulation course effective at increasing resident self-efficacy and self-evaluation of competence?*

Outcomes

- Motivated Strategies in Learning Questionnaire
 - Pintrich et al.
 - 31 items on motivation
 - Likert scale of 1 to 7 (“not at all true of me” to “very true of me”)
- Resident Self-Efficacy
 - 10 point Likert scale
- Resident Competence
 - 5 point categorical scale
- Number of attempts to Mastery

Results

- Descriptive statistics
 - Year 1, 17 participants
 - 14/17 (82%) women

Station	Mean attempts to Mastery (SD)
Lumbar Puncture	1.4 (0.64)
Urinary Catheterization	1.67 (0.72)
Case Presentation	1.68 (0.92)
Respiratory Arrest	1.43 (0.50)
Dehydration- Rehydration	2.07 (1.09)

Self-Efficacy

Station	Pretest M, SD (N=17)	Posttest M, SD (N=16)	P-values
Lumbar Puncture	4.56 (3.41)	7.75 (2.49)	<.001
Urinary Catheterization	7.25 (3.09)	8.81 (2.07)	.048
Case Presentation	6.75 (1.77)	8.13 (1.54)	.002
Respiratory Arrest	5.06 (2.05)	6.88 (1.99)	<.001
Dehydration Rehydration	5.94 (2.24)	7.81 (1.78)	<.001

Self-assessment of Competence

Station	Pretest M, SD (N=17)	Posttest M, SD (N=16)	P-values
Lumbar Puncture	1.94 (1.12)	2.38 (.81)	.035
Urinary Catheterization	2.88 (1.09)	3.06 (.93)	.366
Case Presentation	2.88 (.50)	3.06 (.68)	.083
Respiratory Arrest	1.69 (.60)	2.13 (.62)	.008
Dehydration Rehydration	2.25 (.68)	2.63 (.81)	.083

MSLQ

Motivation	Pretest M, <i>SD</i> (N=17)	Posttest M, <i>SD</i> (N=16)	P-values
Intrinsic Goal Score	5.86 (.91)	5.73 (.76)	.49
Extrinsic Goal Score	3.63 (1.04)	3.52 (1.36)	.57
Task Value	6.25 (.61)	6.01(.68)	.10
Expectancy Control of Learning Beliefs	5.3 (.65)	5.28 (.82)	.92
Expectancy Self Efficacy	5.27(1.06)	5.38 (1.00)	.41

Discussion

- No significant correlations between self-efficacy, self-assessment of competence, and motivation to performance in Mastery Learning.
- The course was effective in improving self-efficacy.
- Challenges
 - Plan to increase the sample size
 - Explore standard setting in Mastery Learning
 - Establish a model for the relationship between motivation and Mastery Learning.

